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Keywords

Action research, Modeling, Reflection, Practitioner-research

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Abstract

The purpose of this study was to investigate the effectiveness of teaching action research through modeling. Participants were 11 doctoral students enrolled in a two-semester practitioner-based research course. In this study, I was both instructor and member of the research community. I modeled the steps of action research as I conducted a study of my practice, which focused on having students engage in reflective activities for the purpose of aligning their core educational values and the actions taken in their research studies. The students and I engaged in discussions of our research projects, and as part of the research community, I shared my dilemmas, frustrations, and successes. I also kept a reflective journal, which students were able to access online and respond to, and made my research paper available to students as I wrote each section. Further, I modeled for students the reflective activities I used as I navigated my own action research study. Analysis of course artifacts, interviews and conferences, and observations indicated that students perceived modeling to be a powerful way to facilitate their learning and create a sense of community.

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Introduction

For the past nine years, I have taught graduate-level action research courses to educators pursuing advanced degrees in curriculum, leadership, media, technology, counseling, and school improvement. As a trained quantitative methodologist, I have learned about the action research process as I've facilitated students' studies. My academic training did not include study of action research, and I was unsure what action research was when my department chair informed me that my instructional responsibilities were shifting from teaching consumer-based research and statistics classes to teaching courses that would guide educators through their own action research studies. Unimpressed by what I perceived to be *soft* research, I initially fought the change in my program's curriculum, maintaining that our students needed a foundation in research methods that would enable them to be consumers of rigorous, academic studies. My department chair was not swayed by my argument, and with only a few weeks to prepare for my first action research course, I delved as deeply as I could into the action research literature, preparing myself as best I could for what I perceived to be a useless experience for students. Just a few weeks into the course, however, I saw remarkable changes in my students, most of whom were teachers who aspired to become administrators. Not only were they conducting rigorous studies of their practices, they clearly felt empowered and believed they were taking charge of their own professional development.

My misgivings about action research have now been replaced by my complete confidence

in the potential for action research to empower educators, to help them increase their knowledge and improve their practices, and to give them a way to contribute to the professional knowledge base. This confidence, however, was based initially on my observance of others' engagement in action research. When a colleague pointed out that as a teacher of action research I should also be conducting action research, I realized I had been relying on intuition, anecdote, and instinct when searching for ways to improve my instruction in action research and in my facilitation of students' studies. This focus on intuition was precisely what I was attempting to steer students away from as we studied the ways in which the systematic steps of the action research process provided evidence—rather than instinct—upon which to base decisions. This *a-ha* moment inspired me to conduct an action research study on my own instructional practices. During a two-semester doctoral level practitioner-based research class, I conducted a study that focused on engaging students in various forms of reflection for the purpose of aligning their educational core values and the actions taken in their research studies. I modeled for students each step of the action research process and provided them with full access to my research writings and my reflective journal. Throughout the course, we were all members of the research community, and I shared my successes and frustrations from my study—a study in which they were the participants—as they shared theirs. In this paper I discuss the effectiveness of modeling on the student-participants' development of research skills.

Review of Literature

My interest in teaching through modeling began when I was a doctoral student tutoring graduate students in research methods and statistical analysis. As a learner, it was clear to me that I learned best in one-on-one or small group settings that involved an expert guiding me through a particular experience. As a tutor, I was most successful when I applied this modeling technique to my own instruction, following the strategies outlined in Collins, Brown, and Newman (1989) including modeling, coaching, scaffolding, and fading. Prior to engaging in this research study, however, I relied on a transmission model of teaching in which I explained the steps of the action research process and then instructed students to apply to their own studies the information transmitted in class or through the textbook. I was clearly not using the instructional strategies that had been most effective for me as a learner or as a tutor.

The strategies described by Collins, Brown, and Newman (1989) are the basic activities associated with the cognitive apprenticeship model of learning. The authors explain that in the cognitive apprenticeship model "conceptual and factual knowledge are exemplified and situated in the contexts of their use" (p. 457), which allows for knowledge use in different contexts. Collins et al. also explain that cognitive apprenticeship focuses on learning-through-guided-experiences of the internal cognitive and metacognitive processes and skills necessary in complex tasks. This type of apprenticeship learning must include making transparent (or external) those processes that are typically internal.

One method used for externalization of internal processes is modeling, which is the process I used in this study to make transparent (via reflective journaling, for example) the reflective strategies I employed throughout my research study. In the university setting, modeling has been shown to be an effective strategy for teaching preservice teachers problem solving skills (Loughran & Berry, 2003; Warren, 2005) and critical thinking (Derry, Levin, Osana, Jones, & Peterson, 2000; Osana & Seymour, 2004) and for teaching research skills to undergraduate students (Hunter, Laursen, & Seymour, 2007).

Cognitive apprenticeship is closely related to situated cognition, a model of learning based on two major tenets: learning is a process of enculturation, and learning and doing are not separate tasks. Situated cognition has been linked to the work of Vygotsky, Leont'ev, and Luria (Reynolds, Sinatra, & Jetton, 1996) and to studies of craft apprenticeship (see, for example, Brown, Collins, & Duguid, 1989; Lave, 1998, 1996; Lave & Wenger, 1991).

According to Driver, Asoko, Leach, Mortimer, and Scott (1994), Vygotsky believed knowledge is constructed "when individuals engaged socially in talk and activity about shared problems or tasks....are introduced to a culture by more skilled members" (p. 7). This connection to culture and social engagement links to craft apprenticeship studies that show learning occurring as novices in a particular community develop over time to become experts.

Prawat and Floden (1994) explain that the acquisition of cognitive skills and strategies is the goal of situated cognition and assert that this acquisition can occur only through prolonged participation within a community. According to Pugh (2002), an instructor can create a community and encourage students to fully participate within that community through modeling both "every day use of the concept....and the excitement and satisfaction" (p. 1106) that comes with its use. Modeling within the community is not sufficient, however, to bring individuals into full participation in the community. Lave and Wenger (1991) stress the importance of discourse in a community of practice, explaining that both talking within a practice (i.e., discussing the progression of our research studies) and talking about a practice (i.e., discussing what it means to be a practitioner-researcher) are necessary to engage individuals and bring them into legitimate membership in the community.

In my study, the goal of the course was for students to acquire the cognitive skills and strategies necessary to engage in action research. Further, I wanted to create a research discourse community to provide students a place to engage, as practitioner-researchers, in discussions of their research studies. My belief was that sustained participation within our research discourse community, which I was part of and in which I modeled the action research process, would help students develop the reflective, cognitive, and metacognitive processes necessary for becoming practitioner-researchers.

Research Focus

The purpose of this study was to teach action research by modeling for students the steps of the action research process. Within the context of a two-semester doctoral level research course, I conducted a study in which my student-participants were encouraged to consider their core educational values and the ways in which those values shaped their research goals and their actions throughout their research studies. During the course, I completed each step of the action research process, beginning with reflecting to identify a research focus and concluding with the completion of a written research paper and presentation of my study. Student-participants completed the same steps. The two main goals of the study were to (1) evaluate the perceived effects of my modeling strategies and (2) assess the perceived benefits of creating a research community that I was part of, not simply as an instructor, but as a researcher. My primary research question was *How did students and I perceive the effects of my modeling of the research process in a graduate-level research course?* My secondary question was *How did students and I view the research discourse community that was created in the course?*

Setting and Participants

The setting for this study was a practitioner-based research course that took place over two semesters (August through May) and occurred during the students' second full year in an Ed.D. program in School Improvement. The doctoral program utilizes a cohort model, and students are admitted each summer as part of a small group (fewer than 20 students) who progress through the same 10 courses together. At the time of this study, the student-participants were beginning their final year in core courses and had already completed four semesters of coursework. In their first year in the program, they completed two research courses. The first was an introduction to research paradigms, designs, and methodologies. The second focused on data collection and analysis in educational environments (e.g., classrooms, schools, school districts).

The class consisted of 11 students, including three males and eight females, who had a variety of educational experiences and backgrounds. Though each student was an educator in the same state, their professional roles varied. Our research community included one public and one private elementary school teacher, an associate superintendent, a high school guidance counselor, a principal in a rural elementary school, an assistant principal in a suburban elementary school, two special education coordinators, two school improvement specialists that work at the state level, and a university instructor.

Modeling Activities

In order to answer my primary question, *How did students and I perceive the effects of my modeling of the research process in a graduate-level research course?* I modeled each step of the action research process, including my personal reflective strategies, as I taught the research course and facilitated student-participants' studies. Thus, I was both instructor teaching the concepts of the action research process and facilitating students' studies, and I was part of the research community conducting a study of my own practices just as the students were studying theirs. I attempted to model both the actual steps of the research process my own reflective processes as I progressed through my study. The research processes we engaged in were: (1) reflecting on our practice to identify a research topic, (2) reviewing the literature, (3) articulating research questions, (4) choosing participants, (5) planning the study (e.g., planning an intervention, if appropriate, creating a research timeline, planning for collaboration), (6) choosing data collecting strategies aligned with research questions, (7) implementing strategies for increasing credibility and validity in our studies, (8) collecting and analyzing data, (9) writing up results, (10) setting findings within the literature, and (11) engaging in ongoing planning based on results and conclusions.

Each of these activities was connected to a research paper activity; thus, for each activity we wrote a section of our research papers. I completed the same research paper activities required of my students and used course rubrics as I completed my work to ensure I accomplished each required element. I worked one to three weeks ahead of students so I could post my work and my reflective journal to the electronic class bulletin board. This allowed me to model the writing of each element of my research paper and to offer my reflections as I struggled through the various steps of the action research process. Students were also provided opportunities to evaluate my work using the assignment rubrics. Finally, during class meetings, the students and I discussed at length the progress of our studies.

In addition to the research paper activities, throughout the two semesters students and I engaged in reflective activities that focused on aligning core educational values and actions taken in our studies. I gave four written reflective assignments during the first semester. For the first assignment, students completed reflective activities to identify a research focus. To prepare for that assignment, they read Schön's (1987) descriptions of reflecting-on-action and reflecting-in-action and Killion and Todnem's (1991) reflecting-for-action. They also reviewed Rearick and Feldman's (1999) explanations of autobiographical, collaborative, and communal reflection, Stevenson's (1995) internally and externally directed reflection, and Cole and Knowles (2000) description of reflexive inquiry. For the written assignment, the students and I wrote about, and then discussed in class, times we had engaged in these different forms of reflection, the types of reflection we most often used and were most comfortable with, and possible reasons for our choices. The second assignment focused on writing about our core educational values and the experiences we had both as students and educators that shaped those values. We utilized the following prompts:

- What were your best and worst experiences as a student (at any level)?
- What were your best and worst experiences as an educator?
- What were your family's values/beliefs about education?
- Before you took your first job in education, what were your professional hopes, dreams, or aspirations? What did you think it would be like to be an educator?
- Which of your professional goals have been reached? Which are still ahead of you?
- What is your personal vision as an educator?
- In terms of your life as an educator, what do you want to be remembered for? After

considering these prompts, connecting past experiences with current attitudes, and writing responses, we were each able to craft a statement about our core values as educators.

The third reflective activity was connected to the first research paper activity (identifying a research topic). For this assignment, students identified a research topic, considered the ways they reflected to identify the topic, and determined ways their topics were aligned (or not) to their core educational values. For the fourth reflective assignment, which was given prior to beginning interventions (if appropriate) and/or collecting data, we revisited our core values statements, considered the actions we were about to take in our studies, and then wrote about and discussed ways our values and actions were (or were not) aligned. To clarify through a personal example, throughout these reflective assignments and activities, I shared with students my core value of empowering educators to be in charge of their own professional learning by engaging in studies of their practices. I realized some of my actions (expecting students to use an academic writing style, completing literature reviews, focusing on established validity criteria) forced students to use a research model valued in academe but not in their practitioner worlds. This was a tension I struggled with (and discussed and wrote about in my journal) throughout the research process.

Modeling required me to do more than provide students with the sections of my research paper as I wrote them. I also needed to model internal cognitive processes. To accomplish this, I spent a significant amount of class time discussing my research project and my progress through the steps. For example, I described my difficulty including a required element of the research focus, which was to illustrate the reflective processes I used in selecting my research focus. Later in the course, I shared my frustrations in writing the literature review and in attempting to follow the assignment activities that I, myself, had created. I discussed my difficulty in creating an outline and a concept map as a way to structure my thoughts. Instead, I simply had to start writing and allow the review to take shape before I could see the outline come together. In the following semester during one-on-one meetings, I described to students my strategies for collecting and analyzing data. I also sent email updates to let students know how long audiotape transcription took and whether I was finding a difference in the usefulness of various forms of data. I updated my research journal, which was available for students to view on our online class bulletin board, as I completed each major step of the research process. In my journal, I attempted to make my thinking as transparent as possible, providing detailed explanations about the direction of my study and the decisions I made as I navigated the process. In these updates, I also included my reflections related to my own alignment of my core educational values and the actions I was taking during my study.

Creating the Research Discourse Community

To answer my secondary question, *How did students and I view the research discourse community that was created in the course?* I created a research discourse community. I changed the format of the class from lecture to seminar. We met in a small conference room, and we began each class session by discussing the research work we'd accomplished the past week. Every student shared, as did I. We routinely discussed our successes and frustrations, asked each other for feedback, and offered suggestions to one another. When students asked me a how-to questions (for example, How do I get my county Institutional Review Board to approve my study? or Should I do interviews or focus groups?), I turned the questions back to the group asking them what their suggestions were. In those early class sessions, I reiterated that everyone in the class already had the skills, experiences, and expertise to study their own practices and that because they were all in the field together (whereas I was in the academic world), in many instances they would be better able to support one another than I would. Within a few class sessions, the typical teacher-student hierarchy was replaced by what some students called a "critical friends group" of which I was just another member.

Data Collection

To determine the effectiveness of the research discourse community and the modeling strategies used in the course, I utilized data from student artifacts, interviews and conferences, and audiotapes from class meetings. A variety of student artifacts were available, including in-class reflective writing assignments, written research paper activities, e-mail correspondence with students, midterm and end-of-course evaluations of my teaching, and postings to our online bulletin board. During both semesters, I required students to post bulletin board updates of their studies. During the first semester, the students and I posted five sections of our paper as we completed them (research focus, review of literature, setting and participants, and research methods). We also posted

general questions about the process, and we used the bulletin board to ask each other questions about our various studies, to offer suggestions, and to provide moral support. During the second half of the course, the bulletin board was used mainly for posting and responding to updates on individual studies.

I conducted interviews and engaged in individual conferences with students during the second semester. During monthly individual conferences, we discussed students' research studies, reviewed data, and determined ways in which studies could be adapted if data and student reflections indicated that a change in the study was necessary. I took brief notes during these meetings and expanded the notes after the meeting was over. Another type of data collected was in the form of discussions that occurred during our class meetings. I audiotaped each class session and transcribed our conversations. Table 1 provides details of the data collection strategies used to answer each research question.

Table 1. Data Collection Strategies

	Student-generated	Instructor-generated
Research Question 1	Written reflective assignments E-mail correspondence Bulletin board postings Midterm and end-of-course evaluations Conferences/interviews Transcriptions of course discussions	Written reflective assignments Bulletin board postings Reflective journal
Research Question 2	Bulletin board postings Midterm and end-of-course evaluations Transcriptions of course discussions	Bulletin board postings Reflective journal

Data Analysis

To analyze the multiple forms of data collected for this study, I reviewed the various pieces of written documentation (i.e., student work, correspondences, evaluations, transcribed course discussions), and I coded the data by hand. Utilizing the constant comparative method (Glaser, 1978), I looked for themes and categories in the data. As described by Strauss and Corbin (1990), I first engaged open coding of the data to determine whether there were recurring themes (e.g., risk taking, modeling frustrations, providing encouragement) that could be classified into categories and labeled. Open coding allowed me to break the data into discrete parts, look for similarities and differences within and among the various data sources, and ask questions about phenomena revealed in the data (Strauss & Corbin). Once categories were developed and labeled, I looked for ways categories were connected (axial coding). During axial coding I developed subcategories, focusing on phenomena (central ideas in the data), antecedents (incidents that preceded the phenomena), contexts (conditions specific to each central idea), and any intervening conditions (events that may have constrained or enhanced phenomena). As suggested by Strauss and Corbin, I ended my analysis with axial coding because I only was interested in using some of the tools of grounded theory (open and axial coding to develop themes and categories) and was not focused on developing theory.

Validity Issues

Based on the purpose of my study, I focused on three types of validity that were particularly relevant. The first type, *neutrality/confirmability*, is described by Lincoln and Guba (1985) as demonstrating that described results accurately represent what occurred in the study and are not the result of the researcher's interest, bias, or personal motivation. To increase this type of validity in my study, I accurately and carefully recorded data, wrote about my interests, motivations, and bias in my research journal (and referred to them throughout the data analysis process), collected multiple forms of data and triangulated them, utilized peer debriefing and member checks, and provided an audit trail by making available my data.

The second type of validity that was important in my study was *consensual validity*, defined by Eisner (1991) as "agreement among competent others that the description, interpretation, evaluation, and thematics of an educational situation are right" (p. 112). I utilized peer debriefing and member checks to enhance consensual validity. About once monthly I discussed my progress with a colleague who was familiar with my students and with the purpose of my study. Member checks were particularly important for accurately portraying students' experiences and perceptions. Students were asked to read my *Results* section and provide feedback to ensure I correctly represented them in my analysis.

Finally, I focused on Lather's (1991) *catalytic validity*, which Hendricks (2009) describes as "the extent to which the research transforms and changes the researcher's views and/or practices" (p. 102). To increase catalytic validity, I engaged in continuous reflection throughout my study. I also presented the results of my study to the student-participants, my professional colleagues, and the members of the newest doctoral cohort, focusing on the ways in which the project transformed my practice.

Results

Effects of Modeling

Student responses to my reflective journal, their comments (in class, emails, and during one-on-one conferencing), and their observations on the midyear and final course evaluations indicated that the modeling activities I engaged in were perceived as helpful for building research skills. After my first journal posting, Suman (all names are pseudonyms chosen by the participants) responded, "Great way to get us started—to feel comfortable with confusion—from chaos emerges beauty." Other responses were also favorable, and students indicated a sincere appreciation of having a model to follow that included my personal struggles in the process. After my second journal posting, which related my frustration through the literature review writing process, Sophie posted this message:

I find reading other people's reflections at once bizarre, uncanny, and voyeuristic. It feels like cheating. It's fun. One thing I like most is that I learned a lot, in particular something that applies to my world. The idea you mentioned near the end about how your lit. review had some "think aloud" quality that you don't usually condone in formal writing was very interesting to me [as] a former English teacher....Because I used to teach English, I'm aware of the pains, rewards, and odd consequences of the writing process. And your reflection illustrated the value of a particular kind of "explorative" writing. In my past life, I'd have hopped right up with a red pen on anything even hinting at vacillation or ambiguity. I probably stifled a lot of thinking

by setting up either a stated or implied accountability system wherein student writing had to be polished and free of any sense of writer confusion. Anyway, it was useful to have you bring the Ghost of Term Papers Past to my doorstep today.

A few days later, Lauren posted the message, "I will add my thanks to those already posted in appreciation of your reflections and the thought processes you are modeling in your struggle to synthesize all you have read to reach a research focus."

By my third posting, students were visiting my reflective journal but were not responding to it. I am unsure if this was due to time constraints or if students simply wanted to review my journal but had little to say in response. Still, students continued to tell me that the open process I was engaged in—the sharing of my own research project in class and on the bulletin board—was helpful. In class one night, Lauren stated, "You don't really understand, I think, how much....you're helping me by watching you struggle with this....it helps to watch your thinking [and] the way you've modeled your thinking and your thoughts, the thought processes and the journaling online." In a bulletin board posting, she later wrote,

I like that you are part of our research community....I have, in what feels like a gazillion post-secondary years of schooling, never had a professor who participated in the same manner of academic work expected of students. I understand your reasons for participating in research of your own, but must tell you that it is simply fun to have a professor working along with us. I cannot appropriately emphasize how much I am learning in observation of your struggles and triumphs with your own research. I admire and respect you for your decision to accept the challenge from your colleague to conduct your own action research project....I'm really glad you chose to take this on with [our cohort].

Ann posted this response:

I can't say it as eloquently as [Lauren], but your work alongside ours has freed me from so much negativity. I like to be successful, but I really stress when I don't know what success looks like. I am learning so much through your modeling of the process. You have made me feel safe. I know if my first attempt misses the mark, you will let me aim again.

Allen, who had completed a previous research course with me, said in class, "You really put yourself in our shoes this time." My midterm evaluations, which students completed anonymously, corroborated earlier student comments. One student, for example, wrote, "Her willingness to put herself and her work out there as an example truly connected her teaching to my learning." Another student wrote, "Dr. Hendricks modeled as she taught."

Teaching/leading by example is the hallmark of an exemplary educator." On final course evaluations, four students made positive comments about the modeling. One student wrote, "Takes risks in personally modeling own research study and thinking." Another wrote that the modeling "helped tremendously as I struggled with questions."

Over the course of the academic year, students continued to offer positive comments about my modeling and sharing of my own research processes. Even near the end of the course, students affirmed the helpfulness of these strategies. In one of our last one-to-one conferences, Michael shared his positive feelings about the way the course was structured and the helpfulness of the modeling for guiding him through the research process. Louise sent an email as she was working on the final section of her paper, stating, "In case I

haven't told you specifically, thank you for joining us on all our assignments. You display a tremendous amount of respect for us and confidence in us while adding to your own personal workload." She later wrote, "I cannot imagine tackling [the project] without the model you have provided." It is interesting to note that some students said they were waiting to see the last two sections of my paper before formally starting their own.

Though it is difficult to measure the instructional benefit of modeling the action research process, the student-participants in this study conducted the strongest, most rigorous studies of any of the four doctoral cohorts that preceded them. Their papers were extraordinarily well-written, and there were far fewer resubmissions of work than there were with previous cohorts. Though I have no way to make anything other than anecdotal comparisons here, in reviewing my reflective journal, I frequently noted students seemed to be having an easier time with the project activities, students' writing was as strong or stronger than I had seen with previous students, the quality of questions, discussions, and suggestions among students was at a deeper level, and the quality of students' first drafts was superior to those of earlier cohorts. Additional research with future cohorts that takes into account factors such as preparation (e.g., previous research experiences, years since last degree obtained, writing ability) and position (teacher, administrator, service provider) may allow me to determine whether modeling is impacted by these and other cohort effects.

Impact of the Research Discourse Community

There were other positive benefits of becoming a researcher with my students. First, we established a sense of community. Ann expressed her belief that I was part of the research community in the class, saying,

I have...come to accept the fact that you are my critical friend instead of the person who [says] 'You did that wrong.' I have come to that point of acceptance. I don't think you're in a positional power...I think you hold personal power over us by your influence, by the modeling you're doing with us, and by allowing us not to be perfect.

Though in other courses it was clear the students had created their own community—largely due to the fact that they had worked together as a cohort for over a year by the time they enrolled in my course—this was the first time I felt like I was part of the group. On a midterm evaluation, a student further described the community established in the course, stating, "An atmosphere of collaboration, not just among students but also between students and professor, has been established and cultivated. During class I feel respected, I am treated as an adult, and my input is valued." On a final course evaluation, a student wrote, "I am glad to hear that Dr. Hendricks will continue (extend) her research with [the next cohort]."

As part of the research community, I continued to grow as a researcher, and often students encouraged me just as I encouraged them through frustrations and failures. Responding to my reflective journal, which described my difficulty in aligning my values and actions, Ann responded

The struggle you are experiencing is the struggle we have all experienced as teachers. There are concepts and skills we need to develop with our students, but the time is so limited we don't feel we can pause and let the learning take hold...Because of our internal drives we will both probably remain conflicted, but I will share with you some words that are helpful to me when I am in a period of angst. Do your best and let it rest.

Students also encouraged me during class when I shared stories about my research, and a few offered suggestions to the dilemmas I posed. Though there still remained a barrier between student and professor—I was, after all, responsible for grading and evaluating their work, which may have prevented students from offering the same number and level of strategies they offered each other—the barrier was much less pronounced than it had been with previous classes, and I did genuinely feel like a collaborator and colleague rather than an instructor.

Other benefits affected me more than my students. I found I was constantly challenged to think about my teaching, about the goals I had for students, and about my truly limited experience with the action research process. Responding to a student on the bulletin board regarding the value of research, I wrote

I have been claiming for years that action research is a tool for professional development that can enrich educators' lives. I said that because others had...and because students had told me the same and provided examples. But I really believe it now, and I feel I have more of a right to say it because I'm doing it and I see the way my own professional life is better. Still, it's different (my experience and yours) because I am in a field that values my contributions and expects research and many, if not all of you, are not.

Finally, by creating a research discourse community, I came to know students in a deep and personal way. They shared the difficulties and challenges of their work in P12 education and their frustrations with aspects of their jobs that did not align with their core values. There were moments when discussions turned emotional, when there were tears, and when students questioned whether they could continue in their jobs. One student, in fact, resigned from her teaching position at the end of the year, a direct result of our discussions about core values and living them in our work.

Though there were no data to indicate students had any negative comments about the research discourse community, as the course instructor I did perceive some difficulties. First, becoming a researcher with my students was a time-consuming undertaking that kept me on a tight research schedule. In fact, in the year following this study, administrative duties kept me from having sufficient time to engage in a similar research study with the next doctoral cohort. Any instructor wishing to build a research community and become a researcher with students will need to be sure he or she can dedicate the time necessary to complete a research study. A second difficulty relates to the inherent problem that arises when an instructor seeks to create an equal relationship with students. This is, at best, a complicated undertaking, particularly because in the end, the instructor, regardless of the community that has been created, is responsible for accurately and fairly assessing the students' work. Though I attempted to set us on more equal footing by allowing students to assess my own work, they did not evaluate my work in the same way I evaluated theirs. Whereas I was comfortable telling them when their work could be stronger, they seemed more comfortable encouraging me when I was discouraged rather than giving me feedback on ways to improve my study.

Conclusions

The most beneficial result of modeling the research process for students was its effect on students' confidence in becoming researchers in their own right. While I hoped to see an impact on students research skills, I have little more than anecdotal evidence to support that modeling made students better researchers. Providing reflections on my thinking, questioning, and struggling during my own research study did allow me to "show" students the problem solving and critical thinking strategies I engaged in, and this seemed to give them a safe space to take risks without concern about making mistakes. As explained by Schunk and Zimmerman (2007), observing models who experience difficulties but persevere and eventually succeed impacts students' beliefs in their own ability to succeed in the face of difficulties. This was clearly the case in my study. Students saw me struggle in my research study, realized this was a natural part of the process, and persisted in the face of their own difficulties knowing they would eventually succeed.

The research discourse community we created equally impacted students' confidence in conducting research studies. As the sense of community increased, so did the ease with which students supported each others' studies through critical feedback and suggestions. Over time, students became comfortable offering me the same level of input they gave their peers. Further, we created a space for each of us to discuss not only our research projects but also the challenges we faced in our professional lives. This enriched the students' learning experience, and it certainly enriched my teaching experience.

I engaged in this study of my practice in order to improve it, and that goal has been accomplished. In the past I have been reluctant to get to know students on a personal level—or even on a professionally personal level—but after becoming part of a research community with students, I realize there are far more benefits than risks involved. Students engage at a deeper level, take more risks, and set a higher standard for themselves when they perceive they are known and understood by their instructor. Since conducting this study, I have made it a priority to get to know my students on a much more personal level, and in with each group of students I have seen a deep commitment to the goals we set out to accomplish in our course. Thus, engaging in this study was a transformative experience for me; in each of my courses I now attempt to create a discourse community, and I make use of modeling to guide students through the research process.

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